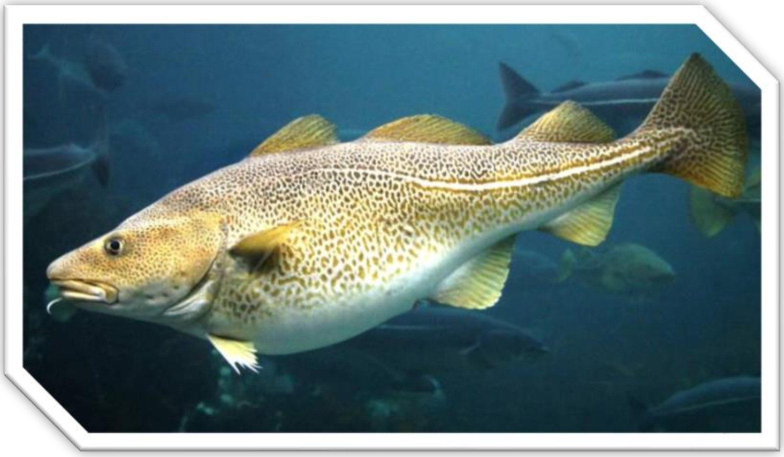
Cod



Cod, in the North Sea specifically the Atlantic cod (*Gadus morhua*), is a species of fish from the Gadiformes Order (Rose, 2007; Zuk et al., 1992). Within the order of Gadiformes there are more than 500 species known, of which around 59 are described within the family of Gadidae (Zuk et al., 1992). Of the other Gadidae species, only three were identified as living in the North Sea as well (Marty et al., 2013). These are Haddock (*Melanogrammus aeglefinus*), Whiting (*Merlangius merlangus*), and Norway pout (*Trisopterus esmarkii*) (Marty et al., 2013). Cod is not described as a migratory species by Rose, as well as being native to the North Sea (2007).

History/ Population trends

From the 1980s to around 2016, the stock size of Atlantic cod in the North Sea fluctuated between 30.000 tons and 15.000 tons (ICES, 2024). From 2016 to 2020, the stock size decreased to about 4.000 tons, which is less than half the stock size ICES advices the stock to be for maximized fishing yield (2024). The stock size has been improving for the last couple of years, but is still not within an acceptable range for intensive fishing on this species (ICES, 2024).

Miscellaneous

- Similarly to Oysters, most aquacultered Atlantic cod are triploid fish (Otterå et al., 2016). This means that these Atlantic cod have three DNA-strands instead of the normal two strands (Otterå et al., 2016). This effect is achieved by a process called ‘pressure treatment’ in which the eggs of diploid Atlantic cod are put in a high-pressure unit (Otterå et al., 2016). This causes great stress on the eggs, which causes them to turn triploid and therefore incapable of reproduction (Otterå et al., 2016). This in turn has two main advantages for aquaculture, being: Farmed cod reproducing with wild cod in the region and preventing the farmed cod from reaching early sexual maturity (Otterå et al., 2016).
- Farmed cod have been selectively bred to reduce the size of their mouths (Otterå & Folkvord, 1993). This has mainly been done because Cod are cannibalistic by nature (Otterå & Folkvord, 1993). At certain stage in their juvenile stage, some cod have grown significantly faster than other individuals, which allows them to become so much bigger that they could potentially start eating their siblings (Otterå & Folkvord, 1993). The smaller mouths remedy this by keeping the mouths so small that the cod could potentially only consume cod from a latter generation (Otterå & Folkvord, 1993).

Diet

- Sandeel (Holt et al., 2019; Link & Garrison, 2002)
- Sprat (Holt et al., 2019; Link & Garrison, 2002)
- Mackerel (Holt et al., 2019; Link & Garrison, 2002)
- Blue whiting (Holt et al., 2019; Link & Garrison, 2002)
- Herring (Holt et al., 2019; Link & Garrison, 2002)
- Crustaceans (Holt et al., 2019; Link & Garrison, 2002)
- Cephalopods (Holt et al., 2019; Link & Garrison, 2002)
- Other detritivores (Holt et al., 2019; Link & Garrison, 2002)
- Annelida (Holt et al., 2019; Link & Garrison, 2002)
- Flatfish (Holt et al., 2019; Link & Garrison, 2002)
- Other pelagic active hunters (Holt et al., 2019; Link & Garrison, 2002)
- Other demersal active hunters (Holt et al., 2019; Link & Garrison, 2002)
- Cannibalism (Holt et al., 2019; Link & Garrison, 2002)

Sources

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